

The fundamental factual inquiry with respect to whether an amended claim is adequately supported by the application as filed is whether the amended claim defines an invention that was clearly conveyed to those skilled in the art at the time the application was filed.¹ The subject matter of the amended claim need not be described literally, *i.e.*, using the same terms or *in haec verba*, in order for the disclosure to satisfy the description requirement.²

The specification as filed clearly conveys to one of ordinary skill in the art the subject matter recited in Claim 1 as amended by the Amendment filed June 27, 2005. For example, at page 2 under the heading “Summary of the Invention,” it is disclosed that “[t]he compounds contain hydrogen atoms in an amount of not greater than two hydrogen atoms per six carbon atoms.” Furthermore, the specification discloses at page 4 that “the compound may contain not more than two hydrogen atoms (more preferably, not more than one) per six carbon atoms contained in the compound, and even in this case, the compound makes it possible to sufficiently provide the effects of the invention.” In fact, amended Claim 1 specifically recites that “the compound contains hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atoms.” For each of the foregoing reasons, the “hydrogen” limitation in Claim 1 has support in the specification.

With respect to the Examiner’s comment that “[t]he specification consistently discloses the compound consisting of carbon, nitrogen, and fluorine in pages 9-13,” there is no requirement that an applicant must claim a preferred embodiment. The specification clearly states that the compounds at pages 9-13 are merely “exemplified compounds (A-1) to (A-6) and (I-1) to (I-10)” and “the present invention is not intended to be limited to these examples.” Requiring Applicant to limit the compound of Claim 1 to encompass only the compounds at pages 9-13 is an improper requirement to claim a preferred embodiment.

¹ Ralston Purina Co. v. Far-Mar-Co., Inc., 227 USPQ 177, 179 (Fed. Cir. 1985).

² MPEP §2163.02.

II. Response to Rejection Under 35 U.S.C. § 103

Referring to Section No. 5 at pages 3-6 of the Office Action, Claims 1, 3-5, 7-13, and 18-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,352,791 ("US '791") in view of JP 2001-247498 ("JP '498").

The Examiner previously relied on US '791 in a §102 rejection presented in the Office Action mailed November 16, 2004.

In response to the §102 rejection based on US '791, Applicant argued in the Amendment filed February 16, 2005, that US '791 does not disclose a compound containing hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atoms and consisting essentially of carbon, fluorine and nitrogen. Applicant further argued that there is nothing in US '791 which would lead one of ordinary skill in the art to make a substitution leading to the compound of the present invention.

In the present Office Action, the Examiner uses US '791 as the primary reference in a §103 rejection. The Examiner acknowledges at page 3 of the Action that US '791 "does not disclose the organic layer consisting of carbon, fluorine, and nitrogen, and wherein the compound contains hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atoms." The Examiner thus relies on JP '498 as a secondary reference for the teaching of an aromatic ring consisting of carbon and fluorine. The Examiner asserts that it would have been obvious to use the rings taught in JP '498 to replace the R₁, R₂, and R₃ of US '791's formula (I). According to the Examiner, the motivation for doing so would be to create a compound having high chemical and thermal stabilities and functions of carrier-transporting property, as taught in the abstract of JP '498.

Applicant respectfully traverses. One of ordinary skill in the art would not have been motivated to combine the references and employ the rings taught in JP '498 as the R groups of US '791's formula (I) based upon the teachings of the references.

For example, JP '498 specifically teaches that the effects achieved by its invention (high chemical and thermal stabilities; functions of carrier-transporting property) are strictly related to

the fact that the compounds of JP '498 are "composed of only ≥ 18 carbon atoms and F." On the other hand, formula (I) of US '791 has a triazine skeleton very different from the compounds of JP '498 "composed of only ≥ 18 carbon atoms and F." JP '498 neither teaches nor suggests any compound containing a nitrogen atom.

Thus, (i) considering the large degree of unpredictability in the chemical arts, and (ii) considering the fact that JP '498 specifically instructs use of compounds "composed of only ≥ 18 carbon atoms and F" to the exclusion of the compound of (I) of US '791, one of ordinary skill would have many reasons not to replace R^1 , R^2 and R^3 of formula (I) of US '791 with the rings shown in JP '498. That is, JP '498 teaches away from the triazine ring of formula (I) of US '791.

Moreover, the Examiner has not shown any reasonable expectation of success in combining the cited references. Particularly, because JP '498 excludes the triazine compounds of US '791, there can be no reasonable expectation of success in taking aromatic rings shown in JP '498 and attaching them to the triazine compounds of US '791.

For the foregoing reasons, Applicant requests reconsideration and withdrawal of the §103 rejection of Claims 1, 3-5, 7-13, and 18-37.

III. Response to Rejection Under 35 U.S.C. § 103

Referring to Section No. 6 at page 6 of the Office Action, Claims 6 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US '791 in view of JP '498 and further in view of U.S. Patent No. 6,166,125 ("US '125").

Applicant respectfully traverses.

As an initial matter, Claim 6 depends from independent Claim 1 and Claim 24 depends from independent Claim 20. As stated above at Section II of this Response, Claims 1 and 20 are patentable because they are not rendered obvious under §103 by the combination of US '791 and JP '498. US '125 does not cure the deficiencies of US '791 and JP '498 noted at Section II. Therefore, Claims 6 and 24 are patentable for at least the reasons that Claims 1 and 20 are patentable.

In addition, in US '791, the triazine compound is included within a light-emitting layer disposed between a pair of electrodes of an organic electroluminescent device.

On the other hand, the compound taught by US '125 is not directed toward the field of an organic electroluminescent element. US '125 simply teaches a graded-refractive-index optical plastic material, where the triazine compound is added to plastic to obtain a material having low scattering loss and high thermal resistance.

The effects of organic electroluminescent elements and graded-refractive-index optical plastic materials are clearly different. There is no light emission in the graded-refractive-index optical plastic material of US '125 used, for example, as a preform of an optical fiber (column 1, lines 11-14). Also, low scattering loss and high thermal resistance are not relevant to the light-emitting layer of US '791. Thus, there is no reasonable suggestion in the prior art to combine the cited references in the first instance. Furthermore, on page 15, lines 2-8, of the specification, it is described that Applicant's light-emitting elements demonstrate an effect as an electron transporting material or a host material. US '125 does not teach such an effect.

Therefore, there is no suggestion to combine the compound disclosed in US '791 with the compound taught by US '125. As there is no such suggestion, there is no motivation for a person of ordinary skill in the art to formulate the claimed compound by combining the applied references. The rejection appears to be based on improper hindsight.

For the foregoing reasons, Applicant requests reconsideration and withdrawal of the §103 rejection of Claims 6 and 24.

IV. Response to Rejection Under 35 U.S.C. § 103

Referring to Section No. 7 at page 7 of the Office Action, Claims 14-17 and 32-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US '791 in view of JP '498 and further in view of Applicant Admitted Prior Art (APA).

Each of Claims 14-17 depends from Claim 1 and each of Claims 32-35 depends from Claim 20. As stated above at Section II of this Response, Claims 1 and 20 are patentable

RESPONSE

U.S. Appln. No. 10/644,830

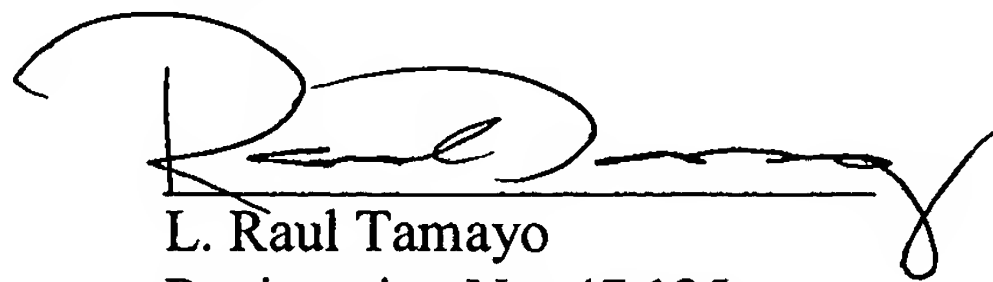
because they are not rendered obvious under §103 by the combination of US '791 and JP '498. APA does not cure the deficiencies of US '791 and JP '498 noted at Section II. Therefore, Claims 14-17 and 32-35 are patentable for at least the reasons that Claims 1 and 20 are patentable, respectively.

Applicant requests withdrawal of the §103 rejection of Claims 14-17 and 32-35.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "L. Raul Tamayo", written over a horizontal line.

L. Raul Tamayo
Registration No. 47,125

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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